

Exhibit 20

HIGHLY CONFIDENTIAL: SUBJECT TO PROTECTIVE ORDER

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OHIO EASTERN DIVISION**

**IN RE NATIONAL PRESCRIPTION
OPIATE LITIGATION**

County of Summit, Ohio, et al.

v.

Purdue Pharma L.P., et al.

The County of Cuyahoga

v.

Purdue Pharma L.P., et al.

CASE NO. 1:17-MD-2804

JUDGE POLSTER

TRACK ONE CASES

SUPPLEMENTAL EXPERT REPORT OF PROFESSOR MARGARET K. KYLE

June 27, 2019

Expert Report of Margaret K. Kyle, PhD

addition to the fields present in Ms. Keller's data, I estimate the number of Norco prescriptions that each order would fill based on the average number of pills per prescription present in the IQVIA data that I rely on in my May 10 Report. The IQVIA data indicate an average of roughly 99 Norco pills per prescription at the time of these chargebacks. Because each Norco package in Figure 5 is made up of 100 dosage units, one Norco package equates to, on average, one prescription.¹¹

(12) Ms. Keller flags four chargeback transactions, which are reflected in Figure 5:

- An August 28, 2005 chargeback for a shipment of 6 Norco packages to a CVS store in Stow. This transaction is identified by Ms. Keller as double the national average of Allergan hydrocodone chargebacks.¹² This is the only chargeback for this store that is found in the Allergan chargeback data for the entire time period analyzed by Ms. Keller, and the total of 600 Norco dosage units would fill an average of 6 prescriptions.
- Three chargebacks for Norco shipments to a CVS store (at the time Revco Discount Drug Center) in Akron. In addition to Ms. Keller's flagged chargebacks, the data show two other chargebacks of Norco to the same store, for a total of five chargebacks.
 - The first chargeback, on September 19, 2004, reflects 2 Norco packages totaling 200 dosage units, which would fill an average of 2 prescriptions. This chargeback was not flagged.
 - The second chargeback, on September 20, 2004, reflects 1 Norco package totaling 100 dosage units, which would fill an average of 1 prescription. This chargeback was not flagged.
 - The third chargeback, on September 12, 2005, reflects 2 Norco packages totaling 200 dosage units, which would fill an average of 2 prescriptions. This chargeback was flagged by Ms. Keller's "Actavis (Teva): 125% Order Average" metric, which is triggered by "any buyer that placed a single order that was 125% of their previous six-month average per order of a specific NDC."¹³
- This chargeback does not appear to meet the criteria described in Ms. Keller's report, as there are no chargebacks for this buyer in the previous six months. It is possible this chargeback was flagged in error by comparison to the September 2004 chargebacks, which occurred one year prior. If so, this chargeback would have been flagged because the 200 dosage units on the flagged order was more than 125% of the 150 *average* dosage units of the two previously described September 2004 orders, despite the total of 200

¹¹ If instead one were to assume the "[t]otal MMEs consumed for appropriate treatment" as described by Professor Rosenthal in her report, each Norco package would equate to roughly 5 prescriptions ($100 \text{ pills} * 10 \text{ mg} = 1000 \text{ MMEs}$, $1000 \text{ MMEs} / 210 \text{ MMEs} = \text{approximately 5 prescriptions}$). Rosenthal Report ¶¶ 94, 98–99.

¹² Expert Analysis: Lacey R. Keller, April 15, 2019 [hereinafter "Keller Report"] ¶ 55.

Keller backup materials show this chargeback being flagged by "doses_double_national_avg_flag" and "mmes_double_national_avg_flag."

¹³ Keller Report ¶ 68.

Keller backup materials show this chargeback being flagged by "doses_actavis_ndc_order_flag."

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dosage units being less than the total combined 300 dosage units of the September 2004 orders.

- The fourth chargeback, on March 2, 2006, reflects 1 Norco package totaling 100 dosage units, which would fill an average of 1 prescription. The fifth chargeback, on March 5, 2006, also reflects 1 Norco package totaling 100 dosage units, which would fill an average of 1 prescription. These chargebacks were jointly flagged by Ms. Keller's "common sense" metric, which is triggered if "prescriptions or orders within a rolling 30-day period were in excess of their maximum dosage units or frequency of transactions in any of the preceding six months."¹⁴
 - This flagging appears to have occurred because the "frequency of transactions" exceeded the "maximum" in "the preceding six months." More specifically, Ms. Keller's algorithm identified *two* orders of 100 pills as an increase over the *one* order of 200 pills on September 12, 2005, despite both sets of transactions involving shipments of 200 total pills in the month.

Figure 5. Allergan chargeback transactions to pharmacies with transactions flagged by Ms. Keller

Buyer name	Date	Product	Qty	Dosage units	Est. Rx	Keller flag
CVS (Akron)	9/19/2004	Norco 10/325Mg	2	200	2	
CVS (Akron)	9/20/2004	Norco 10/325Mg	1	100	1	
CVS (Akron)	9/12/2005	Norco 10/325Mg	2	200	2	Actavis 125%
CVS (Akron)	3/2/2006	Norco 10/325Mg	1	100	1	Common sense
CVS (Akron)	3/5/2006	Norco 10/325Mg	1	100	1	Common sense
CVS (Stow)	8/28/2005	Norco 10/325Mg	6	600	6	Double National Average

Source: Keller backup materials; IQVIA data.



II.D. Allergan transactions in Cuyahoga and Summit counties account for only [REDACTED] of national Allergan transactions

- (13) In Figure 6, I present retail transactions for Kadian and Norco in Cuyahoga and Summit counties as a percentage of national retail transactions for Kadian and Norco, as found in Dr. McCann's processed

¹⁴ Keller Report ¶ 58.

Keller backup materials show these chargebacks being flagged by "chargebacks_common_sense_flag" but not "doses_common_sense_flag" or "mmes_common_sense_flag."